

LOFOTEN (THE) ISLANDS

THE
LOFOTEN ISLANDS

AND

THEIR

PRINCIPAL PRODUCT.

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FINEST, SOUND, HEALTHY, FAT COD-LIVER.



SOUND, BUT LEAN COD-LIVER.



DISEASED LIVER.



FRONT VIEW OF COD-LIVER.

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EGG EMULSION

OF

COD LIVER OIL.

{ FORMULA OF L.B. HEWITT. }

CONTAINS 40 % OF PURE COD
LIVER OIL COMBINED WITH THE
NUTRIENTS, EGG AND BRANDY.

*Dose, 1 teaspoonful to 1 tablespoonful (4 to 15 Cc.)
After Meals.*

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THE LOFOTEN ISLANDS, ❧❧❧❧❧



IT is scarcely necessary to say, belong to Norway, and it may not be out of place to speak of the country in general before more particular mention is made of the Islands or of "their principal product."



NORWAY, the "land of the midnight sun," embraces nearly fourteen degrees of latitude, from 58° to about 72° N., and is the most northerly country of Europe. Almost half of its coast is within the arctic circle, directly east from the ice-bound shores of Greenland; yet, sheltered by lofty mountain peaks, and fanned by airs which carry the balm of ocean currents coming from tropic seas, its valleys present a picture of flourishing vegetation; immense forests of pine, birch and fir relieve the rude grandeur of its precipitous cliffs,



and, with the lakes and fjords for which this country is famous, attract annually many thousands of summer tourists.

The life and wealth of Norway are due largely to the Gulf Stream, which, flowing westward from Africa, is deflected to the north and east by the great curve of coast line which begins with the tip of Florida and ends at Newfoundland; for not only is the comparatively mild temperature of this northern clime due to the stream over which the Scandinavian landward



SCENERY ON THE ROMSDAL COAST.

breezes blow, but the lines of travel and the seats of increase for the finny tribes of the sea are, to some extent, and in the Norwegian's interest, determined by the course of this reversed current and its points of contact with the colder waters of the north.

The contrast between summer and winter is very great in these high northern latitudes. During summer there is continuous sunshine, day and night, for about three months, and even when the sun is not visible above the horizon the long twilight makes the hours almost as clear as day, and lends an indescribable charm to the scenery. Visitors from the United States,





where there is practically no twilight, are especially impressed with the magical effects of light and shade which the subdued twilight yields. In winter there are, of course, just as many sunless days; lamps have to be used almost continuously for months at a time; the moon takes the place of the sun; the stars shine with a peculiar intensity, and the whole sky is alive with brilliant flashes of aurora borealis.

Norway is inhabited chiefly by a flaxen-haired and blue-eyed race, descendants of the hardy and liberty-loving Norsemen and Vikings of old. They are sturdy and law-abiding, jealous of their liberties, yet tolerant of monarchical forms that



SKROVEN FISHING STATION, LOFOTEN ISLANDS.

serve to keep alive the old spirit of hero-worship which led them to conquest in their free-booting days, and which is enshrined in their traditions and mythologies. A limited monarchy; an upper and a lower house of parliament, elected by the suffrages of all citizens over 25 who possess a small property qualification; taxation and offensive war conditioned by legislative enactment; a State church; an alliance with Sweden which doubles the country's prestige abroad and lays no appreciable burden upon the citizens at home: such in brief is the political mechanism by means of which the Norwegian achieves the objects and preserves the advantages of national life.

Since Norway has a coast line of about 1780 English miles, exclusive of its innumerable fjords and bays, or about 4000 miles inclusive of these, it is not surprising that the sea should have come to occupy such an important place in the life of the nation. Thither the thoughts and energies of the Nordlander, or Norwegians, were indeed compelled, because it was not possible, with less than one-half of one per cent. of their country in arable land, to support much of a population unless a "harvest of the deep" could be found to supplement their income from the land.

That part of the Norwegian coast line which yields the largest proportion of the sea harvest

lies between 67° and 69° N., where are situated the Lofoten Islands. These islands are separated from the mainland by the narrow Fjeld-sound. They are arranged in the form of a triangle whose apex, called Lofoten, extends into the North Atlantic in a southwesterly direction, while the base, Vesteraalen, skirts the Norwegian coast. The exact number of islands in the group is unknown; they range in size from Hindö, with its 600 square miles of surface, to Röst, which is only a dot on the map but is in reality composed of some 365 islands—one for each day of the year, as the fishermen say.

There is only one other point on the Norwegian coast, viz., Romsdal, about 450 miles to the south, which at all approaches the Lofotens in the importance of its fisheries. If a comparison of the physical conditions of each can show anything in common that the rest of the coast does not possess, we may hope to obtain an explanation of the pre-eminence of these two places as fishing stations. It so happens that the geodetic survey of the Atlantic bed opposite Norway reveals the existence along that shore of a comparatively shallow bank—less than 200 fathoms in depth—shelving gradually to deeper water almost uniformly except at two points, Lofoten and Romsdal. At these two points the deep bed of the Atlantic encroaches on the bank and runs in towards the land with sharp entering angles or bays. The deep arctic current which



ON THE FOLDEN FJORD.

enters these submerged bays is laden with food—protoplasmic, perhaps, and not immediately suitable for the support of fish, but the infusoria which feed upon this material, and which in turn nourish amphipoda, isopoda, and other crustaceans, thereby guarantee food supplies in abundance for the larger fish which visit these waters. The arctic current, however, is in most places too low down to permit of fishing being conducted at its line of junction with the upper warm Gulf current; but where the deep entering angles approach the coast, as at Lofoten and Romsdal, the cold north current is caught in a trap, as it were, and forced to overflow, spreading its food supplies upon the shallow bank at these places, where also the slightly warmer water resulting from the commingling of the two currents makes of these localities ideal feeding grounds. Some fish come to them to spawn as well as feed—notably the cod, of which we will have more to say. The Gulf Stream water is of itself too warm to please the fish; they invariably prefer colder water, and only at the two points mentioned is there sufficient admixture with the arctic current to permit their taste in this line to be gratified while at the same time sufficient food is presented to detain them.

If a description of the Norwegian fishing industry were attempted, it would consist essentially of detailed information regarding cod-fishing as carried on at the Lofoten Islands, for to

this one fish and to this one locality, above all others, do the Norwegians owe their sea harvest. About two-thirds of the whole fishing industry is devoted to the capture of the cod. We have not space to give more than a brief sketch of the apparatus and methods employed.

There are three different kinds of tackle used in fishing for cod: the net, the long line, and the hand line. The net is probably the most extensively used, but, as it is quite expensive, very many fishermen are compelled, for lack of means, to use the line. The largest boats, called *Femböringer*, thirty-six to forty-eight feet long, are used for the net fishing; they have a crew of six or seven, and carry nets to the number of about a hundred, of which each man in the crew contributes his share. The net is about thirty yards long, four to six yards deep, and with meshes about $2\frac{1}{4}$ inches square. From fifteen to twenty nets are linked together, and each boat may have as many as five or six sets of such nets. Under very favorable circumstances there may be caught in one combination net that has remained out for a night as many as 1500 to 2000 fish, which is a full load for the *Femböring*.

The next largest boat, the *Ötring*, is generally employed for long-line or set-line fishing. It carries a crew of from three to five, and measures twenty-eight to thirty feet in length. The line itself is only strong hemp cord to which hooks are attached at intervals of four feet; 480

hooks constitute a "stamp." Sometimes two or three stamps are attached and strung out, so it may very well be called long-line fishing. These lines are set in place by being allowed to sink to the proper depth, and then suspended by floats attached at appropriate points. A good catch on a long-line is from 400 to 800 fish.



There are fishermen so poor that they have to content themselves with hand-line fishing; they employ a still smaller boat, called a *Tverömming*, carrying a crew of two and occasionally three men, and measuring eighteen to twenty feet in length. Hand-line and long-line fishing are of course dependent on bait for enticing the fish to "catch on," and according to official reports no less than 26,500 barrels of the various kinds of bait, principally herring and caplin, were used in the season of 1893.

When it is remembered that the fishing season is in winter—not at all a favorable time even in more southerly countries—it is not surprising that storms, then so frequent, cause the fishermen annually very heavy loss in tackle destroyed or lost. Very often the fishermen are compelled to run for the land and leave their tackle, nets, lines, etc., to the mercy of the sea. A reference again to the official report for 1873 informs us that the item of loss and damage for that season cost the fishermen no less than \$134,000. It is only the weather that puts any restriction on the fishing, but weather north of the Arctic Circle at this inclement season is not to be regarded with indifference, especially as the days are so short and the fishing is carried on with open boats. Storms may rage for weeks at a time, while the fishermen, not daring to put out to sea, can only wonder what will happen to their fishing gear, which may break with the weight of fish, become entangled by the action of the waves, or be torn from its moorings and carried out into the deep, a mere heap of cordage.

In the month of January each year the cod—known by the scientific name *Gadus Morrhua*, applied by Linnæus—glide in toward the land in immense shoals, to deposit their spawn on the sea bank or shallow plateau to which we have referred. The average depth of the bank immediately encircling the Lototen Islands is from seventy-five to ninety fathoms.



TYPES OF LOFOTEN FISHERMEN.

Also at this time—in the month of January—when there is practically no daylight, there begin to center in the Lofoten Islands countless processions of men by land and boats by sea, that have come from almost every part of Norway, certainly at least from as far south as Bergen, a distance of over 700 miles. Lapps and Finns—the latter being known in Norway as Quanes—are present in the motley assembly. All are bent on the same errand, and that is to fish for cod, for this is indeed the "principal product" of the Lofoten Islands.

The Finn, Finlander, or Quan, is usually tall, well proportioned and strong, a good fisherman and a good farmer. The Lapp, or Laplander, is invariably diminutive, extremely friendly and chatty, full of flights of fancy and feeling.

The Lapps are the aborigines of the land, and, like the American Indians, have been forced to gradually retreat inland into the high mountains. Their frequent collisions with the Norwegians do not seem to reconcile them to the ascendancy of the stronger race. In their legendary lore the devil always appears in the garb of a Nordlending, or Norwegian.

The Nordlending, as he is called at home, seems at first sight mentally sluggish, compared with the effervescent Lapp; but this is only on most superficial comparison, and better acquaintance with him reveals a rather unexpected intelligence. Speak to him. What has he not read



and thought over, and how interestedly does he follow your conversation on almost any topic which may be introduced! He is the best fisherman, the bravest and most daring seaman, the country produces. Observe him in his boat: not only is he a powerful oarsman and smart pilot, but his movements are quick and at the same time easy and graceful.

There is a characteristic trait common to these different fishermen that deserves notice—namely, the wonderful honesty and obedience to law shown during the fishing season. Be it remembered that about 30,000 men are collected together for two or three months within a narrow territory, that they live when on shore in small and close houses, that in stormy weather they are often idle for weeks at a time, and yet they are controlled by half a hundred policemen. This is a record that speaks eloquently for the self-control of these fishermen. Manslaughter or serious crime is unknown, even quarrels are rare, and there is a toleration and consideration of

others' rights and property that bears witness to a greater culture than one would be disposed to believe these sons of toil to be possessed of. Their police—officials of the Government Fishery Surveillance—are indeed rather looked up to as fatherly advisers than anything else, and although there is no lack of stringent regulations, the fishermen recognize that their own welfare lies in obedience, and it is given without question. Among other things, these naval police regulations govern the time of day when fishing shall begin and when it shall be discontinued—this regulation in particular being intended to prevent net-stealing. It may be said by some that a good deal of the credit due for absence of crime or misdemeanor arises from lack of opportunity, all the more that the sale of beer and whiskey is interdicted, but we will not discuss this here.

But since there are other fishing districts of Norway where cod-fish are caught, and still others in the world nearer home, such as the Great Bank south of Newfoundland, why have we selected the Lofoten Islands? For one reason only. As cod-fishing is at present conducted, the Lofoten Islands is the only fishing station in the world where absolutely *pure* and consequently the *best* cod-liver oil can be obtained. Our reasons for saying so are based upon careful criticism of Government Fish Commission reports made by scientific experts, as well as upon com-



HAULING IN COD-FISH NETS.



parative examination of the various oils upon the market. The cod-liver oil obtained at Lofoten is the *purest* because here all other fish give place to this one—as if by common consent the field is forsaken, and the cod obtains absolute possession; no fish but cod can be caught.

Again, the fish themselves are

at their best: they come to the Lofotens to spawn and are then fat and in good condition; the liver yields the oil more freely and at a lower heat at this period of the life of the fish.

As the *Gadus Morrhue*—its scientific name—the cod would certainly need an introduction, but under its popular name it is probably the best known of all fishes, and is the object of pursuit for which the great fisheries of Europe and America are established. It is essentially a deep-water fish and is never seen in fresh water. It is found in the seas of cold or temperate regions in both hemispheres.

In common with the other members of the genus *Gadus*, it is known by the position of the ventral fin under the throat and by its pointed form. The body is long and slightly compressed; the head well proportioned; fins soft; scales small and soft; the jaws and front of the *os vomer* have unequal pointed teeth of moderate size and disposed in several rows; the gill-covers are large and consist of seven rays. Most of the species have, like the cod, not only the three-parted dorsal fin, but two others besides—a fin behind the vent and a distant caudal fin. A barb under the chin, however, is the exclusive property of the cod, and forms a distinguishing mark that cannot be mistaken. (See front cover page for color and general appearance.)

The flesh of the cod yields white, wholesome and agreeable food, easily separable into flakes when cooked, and easy of digestion.

Cod have been caught weighing as much as eighty pounds, but this is considerably above the average; $12\frac{1}{2}$ pounds may be considered a fair average.

To return again to the Lofotens. We find that the cod visit these islands in countless millions, the shoals spreading from there as a center northerly to Finmarken, and south and west about as far as Holland and the British Isles. It would seem that the sheer numerousness of the cod is what crowds out other fish from the Lofoten field; for in Finmarken, for instance,

where as an overflow from the center the shoal arrives a little later in the winter, it is observed that there are about as many coal-fish, ling, pollock, merlane, etc., all told, as there are cod. These species are all caught with the cod, and all are cleaned together and their livers promiscuously employed to make the cod (!) liver oil of that station. Nay, more than that, the Greenland shark, the sun-fish or basking shark, and two or three other species of the shark family, all pursue the mixed shoal as it arrives in Finmarken waters, and the frequent capture of these intruders is not altogether accidental—they have large, fatty livers that yield on an average two barrels of oil each. (We have it on the authority of a Norwegian official of the Government Fishery Surveillance, that sharks are utilized as producers of "cod-liver oil.") This adulteration cannot, for the reason already stated, take place at the Lofoten station.

Speaking of the Government Surveillance, although it is quite correct to say that cod-fishing is controlled by the Government, as any guide-book will tell you, yet the regularly appointed officials that are found present at the various fishing stations have little or nothing to do with the purity of the cod-liver oil product. They settle disputes, it is true, between fishermen; give the signals that announce the time for setting off to the nets, and advice upon the best methods of preparing the fish for market; they even grade the oil, but the grading is based entirely upon a color test



MILLIONS OF COD-FISH HEADS.

without regard to purity of source or to method of preparation. When it is remembered that many of the cod fishermen are agricultural laborers for nine months of the year; that they belong largely to the lower and least educated classes—specially true of the Lapps and Finns; that they are indifferent regarding the ultimate use to which the oil may be put, and probably unaware of the medicinal superiority of cod-liver oil over oil expressed from other livers; that higher prices are obtainable in Bergen, the commercial center of the fishing industry, for one kind of oil than for another,—it is not surprising that much of the oil offered is of a mixed and uncertain character. The purpose of our visit to Lofoten is now apparent, and its justification complete; for we desire to furnish our patrons with a *pure* cod-liver oil, and it is only possible to procure this on the spot.

As soon as the fishermen arrive from the sea with their catch, the fish are decapitated and "dressed," if this work has not already been done on the way in. The fish are then either sold to purchasers who lie in the harbors with their vessels, in the holds of which they salt them down; or, if intended for future disposal by the fishermen themselves, they are hung up, two and two together, upon frames of wood, and simply dried in the air without salting. (See plate, p. 26.) The fishery law directs that these fish shall hang until the 12th day of June, the drying process being necessarily a slow one in such a climate. The fish that are salted are taken later to be dried

on bare ledges of rock along the coast. The roe is salted down in leaky barrels, so as to afford a certain amount of drainage to the mass. The livers are also carefully looked after, and either sold immediately to the oil-works or collected in barrels, where they stand until the season closes. The roe is destined for the French sardine fisheries off the coasts of Brittany and Normandy.

As the Norwegian fisheries will average about 50,000 barrels of roe per annum, each barrel containing about 600 roes, and each roe is estimated (according to Professor Leuwenhoek) to contain 1,200,000 ova, an idea is obtained of what a breach man can make, year after year, in nature's immense reproductive resources, without traceable injury.

Of course the reader knows that the liver of the fish is the part in which we are most interested. This, in an average fish, weighs about half a pound and measures about fourteen inches in length. When healthy and fat it is cream-colored and so soft that one may easily push the finger through its substance; if lean, some difficulty is experienced in performing this act. The fatness or oil-yielding property of the livers varies greatly from year to year. One year the livers of 200 fish will make a barrel of oil; another year it may take from 400 to 500. For example: The total number of cod caught in 1895 at Lofoten was 38,600,000, and from this quantity was produced 12,300 hectoliters of crude medicinal oil (100 hectoliters crude will yield from 70 to 75 barrels



DRYING COD FOR MARKET.

[of 25 gallons] refined, non-freezing oil, ready for export). The previous season (1894), with a total catch of ten millions less, or 28,200,000 fish, there was produced exactly the same amount of oil. So that while the 1895 yield of fish was *over*, the yield of oil was much *below*, the average.

The method of "trying" out the oil from the livers has much to do with its palatability, and also with its digestibility. We claim that our IMPROVED LOFOTEN COD-LIVER OIL is better than average cod-liver oil, from attention to this alone, and that the prefix "Improved" is not an empty title. The primitive method of expression is really no *method* at all. This is the way it is carried out: The fishermen, on landing at their *Vær*, or harbor, immediately on cleaning up their catch and disposing of the fish, carry the livers and roe to their shanties. The livers, of course, are kept separately from the roe, but no care is taken to separate the gall-bladders from them, and they are thrown into barrels to accumulate until "a more convenient season" shall afford the leisure to attend to them. As each successive catch brings its quota of livers, the barrels become gradually filled, and are then headed up, to form a portion of the fisherman's cargo when he shall set sail for home at the close of the season. The season usually closes in April, and by this time the livers that were barreled in January are in an advanced stage of decomposition, while others of more recent capture are scarcely better off, being in such bad company. When the farmer-fisher-

man gets home he cannot always attend to his livers at once, for other duties imperatively demand his attention. It is, therefore, perhaps another month before the barrels are opened. The process of slow decomposition, initiated during the colder months at the fishing-grounds, becomes now a rapidly accelerated one, and the walls of the hepatic cells break down in the general decay. This permits the oil to escape from the parenchymatous liver substance and to rise to the top of the barrel, where it is skimmed off as it makes its appearance. The oil obtained from livers in this way, it may be needless to remark, is contaminated with many of the products of the putrescent process and is in no sense comparable with oil made from the livers of freshly opened fish by modern scientific methods.

Our IMPROVED LOFOTEN COD-LIVER OIL is *not* made by the old and odorous process we have described. Instead of waiting till the fishing season is over, the livers, fresh, clean and select, are bought daily from the fishermen and immediately transferred to our oil-refining factory on board a vessel specially equipped for this purpose (see page 33). The livers are then, after being subjected to a mincing process, put into double-jacketed steam kettles for "rendering" or "trying." This operation is completed and the oil stored for final transshipment before the fish from which the livers were obtained have been a day out of their native element.



CUTTING COD-FISH AND ASSORTING LIVERS.

The last few years have seen considerable change in the feeling with which fishermen regard their old-time individual method of extracting or collecting the oil. They are now looking with some favor upon what is termed the factory method, or the collective as distinguished from the individual method, and there are already a number of factories established in the harbors. It is coming to be recognized among the fishermen that they get more money for the livers in this way than they could realize from the oil made by themselves from the same quantity of livers—another instance of the benefit accruing from specialized capital and labor.

Of course a vessel has advantages that these shore factories have not, apart from technical details that can be very readily appreciated. A ship does not have to pay to the proprietors of the Værs the exorbitant rent which they sometimes charge for permission to erect a factory on their ground; but a stronger argument is that a ship can move to a better locality if the creel should not be numerous in the particular region first selected.

So far we have said nothing about the use of cod-liver oil as a medicinal agent, yet it is doubtful if there is an article employed in medicine of more general usefulness. There is much to be said in favor of any remedy which has won its way into such universal confidence, but when we

remember that old-style cod-liver oil, always more or less rancid and nauseating, has accomplished this by sheer merit, what, might we not ask, are the probabilities for the more extended employment of this agent when prepared by modern methods and as nature makes it—bland, palatable, and free from rancidity?

Cod-liver oil has been used for centuries for almost the same purpose and in the same way as at present. The natives of widely separated countries, such, for instance, as the Laplanders in Northern Europe, the descendants of the ancient Norsemen in Iceland, and the Esquimaux in Alaska, have long esteemed it as being much more valuable than other oils or food substances. The experience of these primitive peoples taught them that while cod liver oil was a food, it was also “big medicine,” to quote the phrase of our own aborigines.

Modern civilization, however, objected strongly to swallowing the rancidity and nauseousness of the old-time oil, and began looking to see if improvement were not possible. Somebody conceived the brilliant idea that perhaps the oil contained an “active principle;” many extractives were made in accordance with this idea, but they all proved to be decomposition alkaloids or ptomaines, fluctuating in quantity according to the bacterial infection of the decomposing livers and the degree to which putrescence had advanced. Modern investigation is emphatic on this point, and we take

the liberty of quoting the exact words of the highest authority, F. Peckel Möller,* on the subject: "In the oil extracted from fresh livers there are no alkaloids; . . . the active principle of cod-liver oil is the oil itself."

There are very many substances that affect certain tissues and functions of the body while they are present in it, but, being distinctively medicinal in character, they are for the time being considered as foreign bodies, and are accordingly ejected by the emunctory organs as quickly as possible. But when a substance is digested, assimilated, and incorporated as part and parcel of the human body, its beneficial action lies in its ability to furnish nourishment to all the various structures of the organism, to the blood-corpuscles as well as to the cells of brain, muscle, cartilage, and bone. Cod-liver oil, being essentially a food, *sui generis*, since it is absorbed as such, would be no more acceptable to the system in a "wine" or "essence" of extractives, so-called, than would a tincture of wheat as a substitute for bread! Organized bodies want—and must have—organized food.

Cod-liver oil is eminently assimilable; indeed, it is the most easily digested of all animal oils

*Cod-Liver Oil and Chemistry, p. cviii. London, 1895.



INTERIOR OF AMBULATING COD-LIVER OIL FACTORY.

or fats. This is perhaps due to the presence of a small quantity of liver ferments and of biliary matter; the latter assisting in making emulsification extremely easy, the former having already partly prepared the oil for immediate absorption by the body of the consumer. It also contains minute quantities of iodine, bromine, and phosphorus, which are derived from the fishes' food and happen to be in transit through the cellular tissue of the liver at the time of capture. We know, however, that the iodine is not present in the oil as an iodide: it is combined in some organic form, and cannot be isolated without destructive changes being effected. In the same manner the phosphorus is so intimately and organically combined that it cannot be considered apart from the presence of the oil itself. We know also that phosphorus exerts a peculiar specific action upon the reproduction and upbuilding of the cellular elements of the human body, especially in the formation of cell nuclei, and imparts an increased property of what we may call *vital resistance*—that is, an aptitude for life and normal reproduction, despite the incessant causes of physical, chemical and pathogenic deterioration. The first sign of breaking-down is the inability of the system to assimilate from the accustomed food the phosphorus necessary for new cell-growth. In such diseases, therefore, as consumption, scrofula, rickets, etc., or wherever the constitution is below par, the presentation of a supply of easily assimilated phosphorus is exactly what is necessary, and if such

be furnished it will in many cases enable the system to accumulate sufficient reserve force to carry it into convalescence beyond the reach of the breaking-down influences which previously had the mastery. Cod-liver oil steps in here and furnishes the human economy this provision of phosphorus in a loosely combined *lecithin*, which is *the very form* in which it exists in milk, in yolk of egg, in the brain, in the legumin of plants, in casein, and in nuclein—that is to say, in the active organized condition in which it can be best assimilated and directly utilized by the body; by means of it the work of building up and repairing can be accomplished with the least expense of energy and nerve force.

There is no modification of the oil possible, however artfully manipulated; no wine, essence, or extract, however pleasingly named, can furnish nature with a product that will be as acceptable, or that can be as well utilized in the organism, as the product made in nature's own laboratory—the oil itself. “Wines” or “extracts” of cod-liver oil are a delusion, as they cannot extract anything—unless, indeed, it be from old-style oil, and then the “extract” is made up of decomposition and oxidation products characteristic of the primitive method of manufacture—products that are more injurious than beneficial.

Professor Wilcox says on this subject, in his monograph entitled “Cod-Liver Oil: What is



COAL-LIVER OIL FACTORY AT RAEKOB IRAKUT, LOFOTEN ISLANDS.

it?" (New York, 1894): "Shall we now go on to administer the extractives of cod-liver oil, *cadaveric alkaloids of demonstrated poisonous properties*—of which the best that can be said is that one is diaphoretic and diuretic in its action and increases the appetite—and discard the really valuable constituents which make up the food? A tuberculous patient can generate a sufficient amount of ptomaine without any assistance from the physician. It is the prevention of the formation, not elimination, that one seeks in treatment. An analogous procedure would be the administration of beef-tea made from putrid meat."

Our IMPROVED LOFOTEN COD-LIVER OIL represents the first attempt to exhibit a *palatable* form of this remedy and nutrient *in its integrity and purity*, as made by modern methods and appliances; the serious objection of nauseating taste and almost certain rancidity is here overcome, and the preparation may be used without any misgivings as to result. Our IMPROVED LOFOTEN COD-LIVER OIL may truly be said to be a food, not a medicine, and a food moreover that is incorporated by the patient with a minimum of effort. A trial will convince any one that it is better able to effect nutritive changes in debilitated conditions of the human body than any other cod-liver oil yet offered.

As the stomach is not that part of the system where oils and fats are digested or absorbed, it

is sometimes well to remember that the acceptability of any cod-liver oil may be better assured to a weak and irritable stomach by administering it about an hour after other food. The food will then be passing out of the stomach, and the oil, going with it, will be less liable, where there may be any flatulence, to announce its presence in the eructations—to "repeat," as the popular phrase goes. It may be given in coffee, milk or wine, or flavored by essences of peppermint, cinnamon, winter-green, etc.—any method which the palate of the patient may prefer. Many take the oil itself without flavoring addition, and this will be found to be a comparatively *easy* method with our IMPROVED LOFOTEN COD-LIVER OIL.

We offer a perfect emulsion in our EGG EMULSION COD LIVER OIL (formula of L. B. Hewitt), containing 40 per cent. cod-liver oil, emulsified with eggs alone, and flavored only with brandy—no acacia, no Irish moss. It is palatable, permanent, miscible with water, milk or wine, and unequalled in nutritive value by any other cod-liver oil emulsion on the market.



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